vaddio
REDEFINING CAMERA CONTROL

Installation and User Guide

PRODUCTIONVIEW™ HD MV

High Definition Camera Control Console with Integrated Multiviewer Touch Screen Control, Multi-View Control Panel Layout Options and Expanded I/O Capabilities

Part Number 999-5625-000 North America
Part Number 999-5625-001 International

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Overview:

The Vaddio™ ProductionVIEW HD MV Production Switcher with integrated camera controller and multiviewer is a powerful, cost effective and easy to operate platform for live presentation environments. With Vaddio's revolutionary TeleTouch™ Touch Screen Control Panel (optional, sold separately), production operators can easily see and switch all live video feeds and create "video thumbnails" of preset camera shots with the touch of their finger.

ProductionVIEW HD MV
Camera Control Console

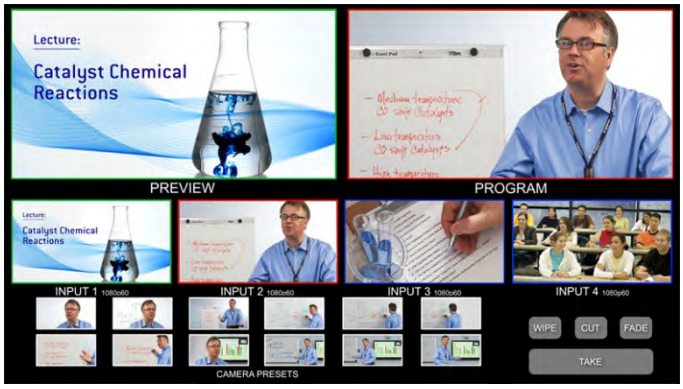
ProductionVIEW HD MV is a broadcast quality, 6x2; multi-format, seamless video mixer that also provides two discrete outputs for dual bus program feeds (two independent 6 x 1 switchers/mixers). Accepting any combination of input signals from analog HD YPbPr video, RGBHV, SD (Y/C and CVBS) video with Input 6 providing a DVI-I input, the ProductionVIEW HD MV supports HD resolutions up to and including 1080p/60fps.

The outputs have been configured for analog (YPbPr, RGBHV and SD) and digital (DVI-D) video support allowing for either a standard preview output or multiviewer preview output with support for two monitors or the multiviewer output supporting a Vaddio TeleTouch Touch Screen Control Panel.

*ProductionVIEW HD MV TeleTouch 22"
Multiviewer Touch Screen Control Panel
(Simulated Multiviewer Output)
*Optional

The optional TeleTouch™ Touch Screen Control Panel allows the camera operator to see and switch all the live video feeds by simply touching the windows that they want controlled. The Vaddio TeleTouch Touch Screens are available in two sizes; 18.5" rack-mount (7-RU) version or a 22" with base.

Each camera input can have up to 12 stored "video thumbnails" of each preset camera shot. These video thumbnail images provide an easy way to identify and recall preset camera positions. The Multi-View Touch Screen Control Panel Layout Options for the TeleTouch Touch Screen Control Panel allows integrators to match the touch screen layout to the number of camera, computer or other video input sources that are connected to the ProductionVIEW HD MV.



Multi-View Four-Input Layout Display for
*TeleTouch Touch Screen Control Panel
(Simulated Multiviewer Output)

The Single or Dual Bus Multiviewer Output mode allows separate Preview and Multiviewer Video Outputs to be displayed. The Preview and Multiviewer Video Output Menus are used to select and set the Preview or Multiviewer video output resolutions.

The ProductionVIEW HD MV control surface is laid out to allow even a novice to operate the system with minimal training. ProductionVIEW HD MV is unmatched in today's camera control, video mixing and video switching market.

Optional TeleTouch Multiviewer Touch Screen Control Panel with Multi-View Panel Layout Options:
The TeleTouch Multiviewer Touch Screen Control Panel (optional) with the new Multi-View touch screen control panel layout options allows integrators to match the touch screen layout to the number of camera, computer or other video input sources that are connected to the ProductionVIEW HD MV.

TeleTouch Touch Screen
Control Panel with
Multi-View Six-Input Layout

TeleTouch Touch Screen
Control Panel with
Multi-View Five-Input Layout

TeleTouch Touch Screen
Control Panel with
Multi-View Four-Input Layout

The multiviewer maximizes the potential screen size available for previewing live feeds and prevents unused blank multi-viewer input windows from being seen. Multi-View allows the user to choose from four to six input windows and provides two larger preview and program windows with red and green tally window borders, which indicate the current output selections.

TeleTouch Touch Screen Control Panel with
Multi-View Four-Input Layout
Two-Inputs Displayed

TeleTouch Touch Screen Control Panel with
Multi-View Four-Input Layout
Three-Inputs Displayed

The TeleTouch Touch Screen Control Panel also eliminates the need for individual preview monitors and allows the camera operator to see and switch all the live video feeds by simply touching the windows that they want controlled. Each camera input can have up to 12 stored “video thumbnails” of each preset camera shot. These video thumbnail images provide an easy way to identify and recall preset camera positions on a per input basis in the preview window that greatly simplifies overall console operation.

Key Technical Features:

- **Vaddio TeleTouch Touch Screen Controller (optional)**: The ProductionVIEW HD MV outputs can provide either a standard preview output or a multiviewer preview output with support for two monitors, one of the outputs supporting a Vaddio TeleTouch Touch Screen Controller.
  The Vaddio TeleTouch Touch Screen Controller allows the operator to see and switch all live feeds by touching the windows. The ProductionVIEW HD MV outputs can provide either a standard preview output or a multiviewer preview output with support for two monitors, one of the outputs supporting a Vaddio TeleTouch Touch Screen Controller. The Vaddio TeleTouch Touch Screens are available in two sizes; 18.5" (P/N: 999-5520-185) rack-mount or a standard 22" (P/N: 999-5520-022) with base.

- **Multiviewer:** The ProductionVIEW HD MV multiviewer feature eliminates the need for individual preview monitors. The multiviewer output allows the operator to see all live video feeds displayed on a single monitor.

- **Multi-View Panel Layout Options:** This feature allows the user to choose from four, five or six input windows on the multiviewer screen image and also provides two larger preview and program windows with red and green tally window borders, which indicate the current output selections. The Multi-View feature maximizes the potential screen size available for previewing live feeds and prevents unused blank multiviewer input windows from being seen.

- **Single or Dual Bus Multiviewer Output Mode:** Single or Dual Bus Multiviewer Output allows separate Preview and Multiviewer Video Outputs to be displayed in either Single Bus or Dual Bus mode. The Preview and Multiviewer Video Output Menus are used to select and set the Preview or Multiviewer video output resolutions. The Preview DVI-D Output can be set to a selected discrete output resolution and the YPbPr Output can be set to a selected discrete output resolution.

- **Camera Video Thumbnail Presets:** Each camera input can store up to 12 stored "video thumbnails" of preset PTZ camera preset positions for 72 total presets. The Vaddio TeleTouch Touch Screen Controller provides the ability to switch to any one of the 12 stored "video thumbnails" with the touch of a finger.

- **Video Switcher**: The internal video switcher can be configured as a traditional video switcher, using the TAKE button, or DUAL BUS mode (essentially two 6 x 1 video switchers).

- **Anything In, Anything Out:** The inputs auto-detect the video resolution and the outputs have user configurable discrete video resolution settings. See the specifications on page 26 for additional information on all of the resolutions supported.

- **Graphic Insertion:** Graphics may be inserted as "lower-thirds" using the Lower Screen Graphics (LSG) feature. LSG can be set up to cover the bottom ¼, ⅓, ½ or full screen, with 10 adjustable steps of transparency levels between the graphic and the video image behind it.

- **Graphic Templates:** A variety of graphic templates are included on a DVD supplied with the ProductionVIEW HD MV in both Keynote and PowerPoint, to help guide users in creating professional Lower Screen Graphics quickly and easily.

- **3-Axis, 1-Button, Hall Effect Joystick:** The ProductionVIEW HD MV includes a 3-Axis Hall Effect joystick controller to smoothly operate up to six (6) PTZ cameras directly (without daisy chaining). Vaddio, Sony®, Canon® and Panasonic® PTZ cameras are compatible with ProductionVIEW HD MV (see the list below of specific models).

- **Camera Presets:** Each input can store up to12 preset PTZ camera preset positions for 72 total presets.

- **Automatic Mode:** The ProductionVIEW HD MV console is equipped with an automatic camera switching mode (for compatible PTZ cameras on inputs 1 & 2), and when combined with Vaddio's StepVIEW™ Mats, MicVIEW™, PresenterPOD™ or other trigger devices, allows ProductionVIEW HD MV to be set up for use without an operator present.

- **Tally Outputs/External Triggers:** The ProductionVIEW HD MV can be configured for six (6) Program tally outputs and six (6) Preview tally outputs for controlling tally lights on external sources. It can also be configured for up to twelve external trigger inputs.

- **Additional Features:** Other features include auto/manual focus, auto/manual iris, backlight compensation and automatic white balance for compatible PTZ cameras.

- **Camera Auto-Sensing:** The ProductionVIEW HD MV is capable of auto-sensing each PTZ camera attached. Control codes for the cameras are automatically loaded into ProductionVIEW (see specifications for supported models).

- **Video Transitions:**
  Video transitions are seamless with exceptional video quality. Transition time is adjustable from 0.1 seconds to 4 seconds, and includes:
  - Cross Fades (one image fades into another)
  - Wipes (9 different patterns)
  - Straight Cuts
  - Fade To Black (by pressing and holding the MIX/FTB button)

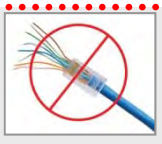
Important Note: When using the Multiviewer output (technically still the Preview output), the transitions are not visible. The multiviewer gives a representation of the Program bus, but without transitions. Please use a separate Program monitor to view the actual Program feed.

Intended Use:
Before operating the device, please read the entire manual thoroughly. The system was designed, built and tested for use indoors, and with the provided power supply and cabling. The use of a power supply other than the one provided or outdoor operation has not been tested and could damage the device and/or create a potentially unsafe operating condition.

Save These Instructions:
The information contained in this manual will help you install and operate your product. If these instructions are misplaced, Vaddio keeps copies of Specifications, Installation and User Guides and most pertinent product drawings for the Vaddio product line on the Vaddio website. These documents can be downloaded from www.vaddio.com free of charge.

Important Safeguards:
Read and understand all instructions before using. Do not operate any device if it has been dropped or damaged. In this case, a Vaddio technician must examine the product before operating. To reduce the risk of electric shock, do not immerse in water or other liquids and avoid extremely humid conditions.

Use only the power supply provided with the system. Use of any unauthorized power supply will void any and all warranties.



Please do not use "pass-thru" type RJ-45 connectors. These pass-thru type connectors do not work well for professional installations and can be the cause of intermittent connections which can result in the RS-232 control line failing and locking up, and/or compromising the HSDS™ signals. For best results please use standard RJ-45 connectors and test all cables for proper pin-outs prior to use and connection to Vaddio product.

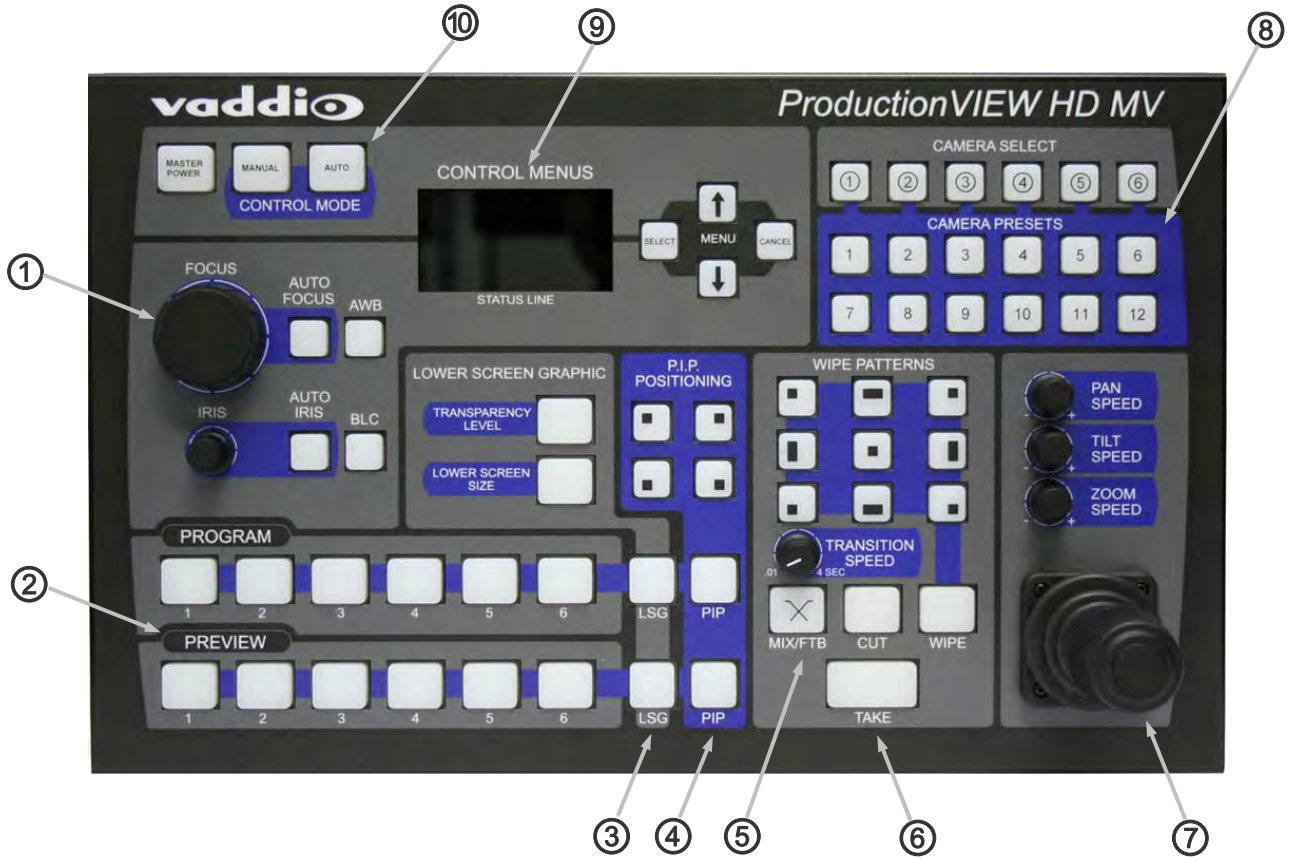
UNPACKING:
Carefully remove the device and all of the parts from the packaging.

For 999-5625-000 North American Version, unpack and identify the following parts:
- One (1) ProductionVIEW HD MV Camera Control Console
- One (1) Vaddio PowerRite™ 18 VDC, 2.75A Switching Power Supply
- One (1) AC Power Cable
- One (1) Laird 100 ohm ¼" Snap-On Rectangular Ferrite (for DC cable of the Power Supply)
- One (1) DVD ROM with templates and sample graphics for Lower Screen Graphics*
- Documentation

For 999-5625-001 International Version, unpack and identify the following parts:
- One (1) ProductionVIEW HD MV Camera Control Console
- One (1) Vaddio PowerRite 18 VDC, 2.75A Switching Power Supply
- One (1) Euro Power Cable
- One (1) UK Power Cable
- One (1) Laird 100 ohm ¼" Snap-On Rectangular Ferrite (for DC cable of the Power Supply)
- One (1) DVD ROM with templates and sample graphics for Lower Screen Graphics*
- Documentation

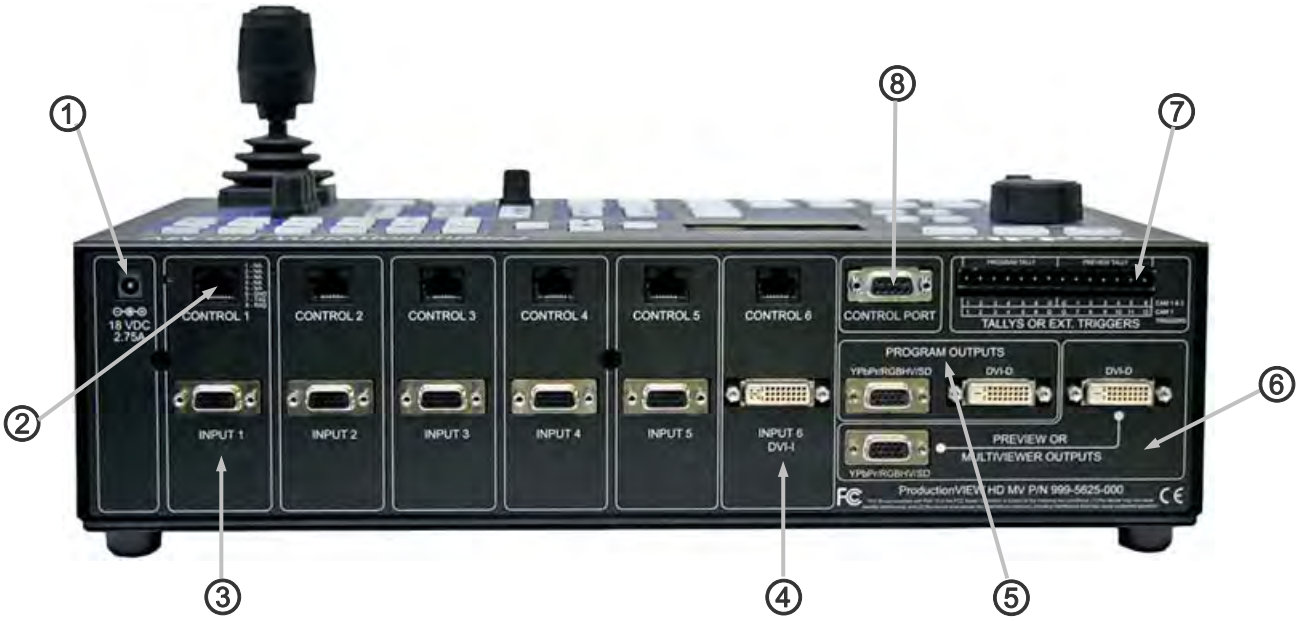
Notes:
*User must supply their own compatible version of Keynote or PowerPoint to display and modify templates on the DVD ROM.

ProductionVIEW HD MV with Feature Call-outs:



1. **Focus and Iris Controls**: Focus and Iris can be adjusted from knobs on the console for real-time control of these critical functions when in manual mode. Auto White Balance (AWB) and Backlight Compensation (BLC) functions are available for compatible cameras.
2. **Single Bus or Dual Bus Switching:** ProductionVIEW HD MV can be configured as Program and Preview buses or as discrete video outputs (i.e. one for high resolution IMAG and the other for delivery to a recording or streaming device).
3. **Lower Screen Graphics:** Insert "lower third" and other graphics, through our unique LSG function. A variety of sizes and transparency levels are available through buttons on the console.
4. **Picture-In-Picture:** Insert video in any quadrant of the program video output to add impact to your live production. The PIP can be adjusted to three different sizes.
5. **Wipe, Fade, Cut, Transition Speed and Fade to Black:** Select from a variety of wipe patterns, mix or cut from buttons on the control console. The fade to black (FTB) feature allows the Program output to fade to black. Transition Speed allows a wipe or crossfade (mix) to be adjusted up to 4 seconds in duration.
6. **Take Button:** Pressing the Take button switches the input selected from Preview to Program in single bus mode. In dual bus mode, it switches the input to the input that is flashing.
7. **3-Axis Hall Effect Joystick PTZ Camera and Speed Controls:** Sony, Canon and Vaddio PTZ cameras can be controlled via the 3-axis Hall-Effect Joystick built into ProductionVIEW HD MV. When the button on top of the joystick is pressed, it will reposition the selected camera to its home position. Located above the joystick, adjustable knobs for Pan, Tilt and Zoom speeds allow the operator extremely fine real-time camera control.
8. **Camera Selector and Presets:** Select a camera from the top row of buttons, and program (or recall) up to 12 preset shots per camera, using the camera preset control buttons.
9. **8-Line LCD Screen (for Menus and Status):** The internal menu allows the user to configure the resolution on the outputs, as well as other parameters built into the console. The LCD screen will also provide status to current settings. See pages 20 to 24 for the menu structures and programmable functions.
10. **Manual and Automatic Modes:** In addition to a manual or "operator" mode there is an automatic camera switching mode for PTZ camera presets assigned to Vaddio input triggers like the StepVIEW™ mats, AutoVIEW™ IR or PresenterPOD.

ProductionVIEW HD MV, Rear View with Feature Call-outs:



1. **Power Input:** Use only the 18 VDC, 2.75A power supply provided with the ProductionVIEW HD MV.

2. **Camera Control Ports on RJ-45 connectors:** One camera control port per camera (no daisy-chaining required). Compatible with Sony, Canon, Panasonic and Vaddio PTZ cameras. See page 7 for details on cameras and camera systems compatible with ProductionVIEW HD MV.

3. **Video Inputs 1-5:** Each input 1 through 5 will accept either an HD (YPbPr) or RGBHV or SD (CVBS or Y/C, with adapter cable) video signals selectable via internal menu on the DE-15-F connector. See the Video Resolutions table on page 26 for all signals and resolutions supported.

4. **Video Input 6:** Input 6 is a DVI-I Input (DVI-D and DVI-A). See page 26 for supported resolutions.

5. **Program Outputs:** The Program outputs are on DE-15-F (HD-15) and DVI-D Connectors. The DVI-D connector uses a HDMI 1.3 compliant transmitter, so with an adapter cable (DVI-D-M to HDMI) HDMI is also output. The DE-15-F outputs HD (YPbPr) or RGBHV or SD (CVBS or Y/C, with adapter cable). The DVI-D outputs DVI-D with sRGB color space and HDMI in YCbCr color space depending on the resolution chosen in the menu. See page 26 for supported resolutions.

6. **Preview/Multiviewer Outputs:** The Program outputs are on DE-15-F (HD-15) and DVI-D Connectors. The DVI-D connector uses a HDMI 1.3 compliant transmitter, so with an adapter cable (DVI-D-M to HDMI) HDMI is also output. The DE-15-F outputs HD (YPbPr) or RGBHV or SD (CVBS or Y/C, with adapter cable). The DVI-D outputs DVI-D with sRGB color space and HDMI in YCbCr color space depending on the resolution chosen in the menu. When using the optional TeleTouch Touch Screen Controller, use the DVI-D Connector and set the output to 1080p/60 HZ or 1080p/50 for best results. Both Preview/Multiviewer connectors will be the same resolution. See page 26 for supported resolutions.

   Note: Transitions and effects will only appear on the Program output.

7. **Tally Outputs/External Triggers:** Allows for connecting ProductionVIEW HD MV to up to six (6) Program Tally outputs and up to six (6) Preview Tally outputs when in Manual Mode. These tally outs can be set to Triggers and used in Automatic Control Mode, which accepts external input triggers such as Vaddio AutoVIEW IR, StepVIEW, TouchVIEW or MicVIEW triggering devices. ProductionVIEW HD MV recalls the Camera Switching and Camera Presets automatically as the triggers are received. In this mode, an operator is not required. See the menu tree for exact deployment.

8. **Control Port:** DB-9 for RS-232 control of internal functions (Pin 2 = TX, Pin 3 = RX, Pin 5 = GND).

First Time Set-up with the ProductionVIEW HD MV:
ProductionVIEW HD MV is designed to be exceptionally easy to use and operate right out of the box. All of the Vaddio standards for using video, power and control over Cat. 5 cabling are well documented and are in the manual and available free of charge from the Vaddio website.

Getting Started:
Connect all of the cameras, monitors and peripheral devices to ProductionVIEW HD MV. The back panel has five-standard DE-15-F (HD-15) connectors and one-DVI-I connector. Vaddio offers several different break out cables including one for SD video inputs (either Y/C or composite) and two cables (3 ft. or 6 ft.) for high resolution video (YPbPr or RGBHV). See accessory cables below.

Once you have connected all of your inputs, outputs and the PowerRite power supply, plug the AC cord into an outlet. ProductionVIEW HD MV will boot up and scan for cameras. As ProductionVIEW HD MV boots up, it will automatically scan each input to confirm which ports have compatible PTZ cameras connected. After boot up, a menu will appear on the blue LCD screen.

Configuring Output Resolutions:
On the LCD screen, a chevron (>) will be displayed next to the menu item that is currently selected. Press the arrow down button (↓) adjacent to the LCD screen, until the chevron is next to "VIDEO OUTPUT MENU" and then press the SELECT Button. Select PROGRAM OUTPUT, which will display your options for video output resolution for the PROGRAM OUTPUT.

Press the arrow down button to the appropriate resolution that is compatible with your video monitor and press the SELECT Button. Press the CANCEL Button to exit out to the previous menu.

Repeat the process for your Preview Output. Once you have selected the Program and Preview output resolutions, press the CANCEL Button to get back to the Main Menu. For additional information on the menu structure, see pages 20 to 24 for additional information.

To set up the Preview out to be a multiviewer output, go to menu item "MULTIVIEWER" and select "ON". If you are using the optional Vaddio TeleTouch touch screen controller, go to "System Menu" and go to menu item "TOUCH SCREEN". Select either the 22" or the 18.5" monitor, which sets the correct touch screen coordinates. Use 1080p/60 Hz or 1080p/50 Hz output resolution for the multiviewer and TeleTouch Monitor.

Auto Configured Input Resolutions:
- The ProductionVIEW HD MV automatically configures and matches the input resolution for each camera video output connected (with active video output) to an Input Port.
- For Inputs 1 through 5, it will scan and select from 1080p/60 Hz (1920x1080) to 640x480@60 Hz. (including SD 480i/29.97 NTSC and PAL 576i/25 Composite and S-Video).
- Input 6 (DVI-I Port) will scan and select from 1080p/60 to 640x480@60 Hz.

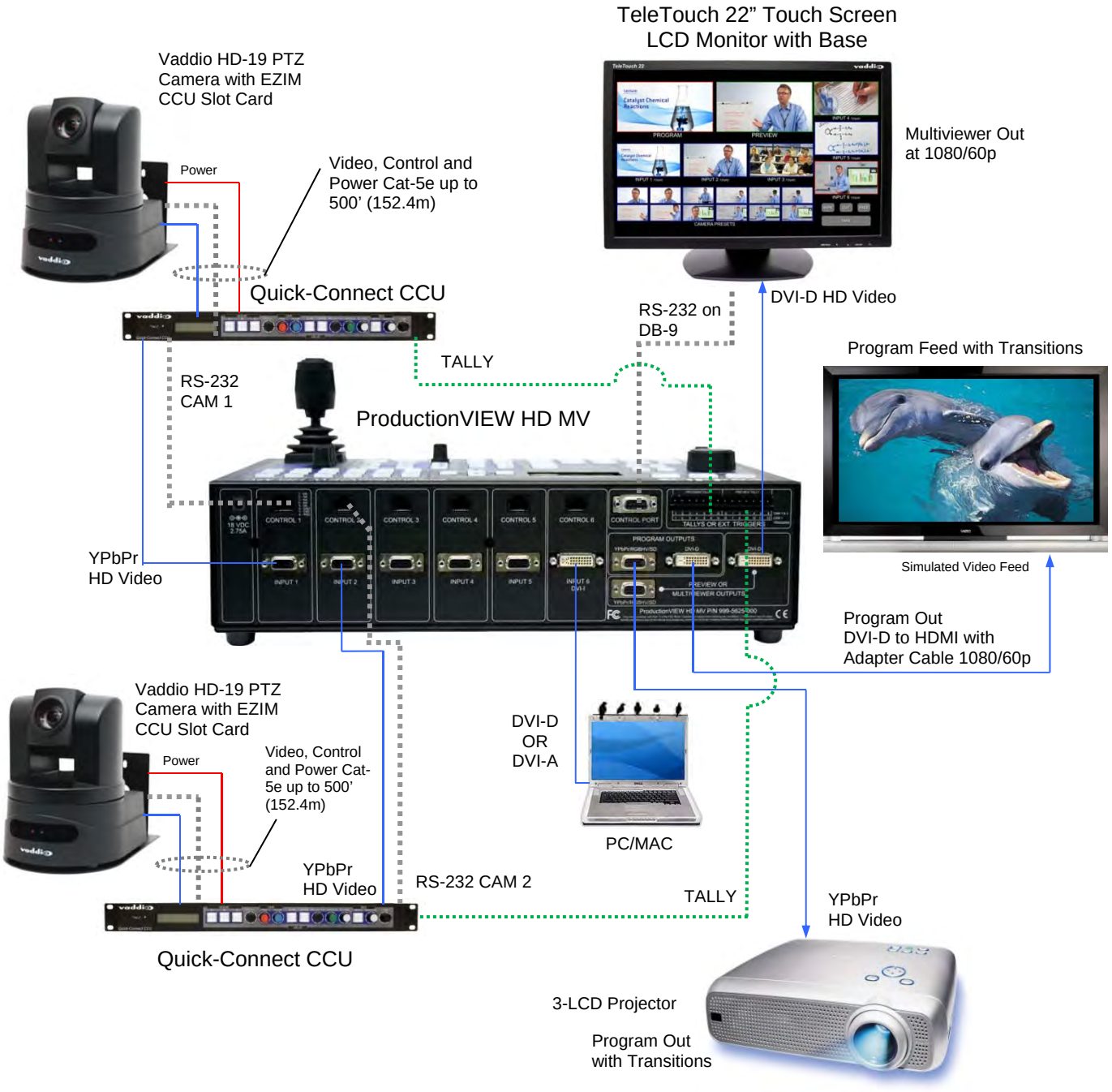
Additional Programming: Review the ProductionVIEW HD Menu Structure for additional information on programming specific parameters. For API and Programming Language, see information in the Appendix.

Vaddio Accessory Cables and Part Numbers:
440-5600-000 – 15-pin to SD (Y-C / CVBS) breakout cable (female BNCs - 1' / 308.4mm)
440-5600-001 – 15-pin to HD Component (YPbPr/RGBHV) breakout cable (male BNCs - 3' / .914m)
440-5600-002 – 15-pin to HD Component (YPbPr/RGBHV) breakout cable (male BNCs - 6' / 1.83m)
440-5600-003 – 15-pin to HD Component (YPbPr/RGBHV) breakout cable (female BNCs - 7" / 177.8mm)

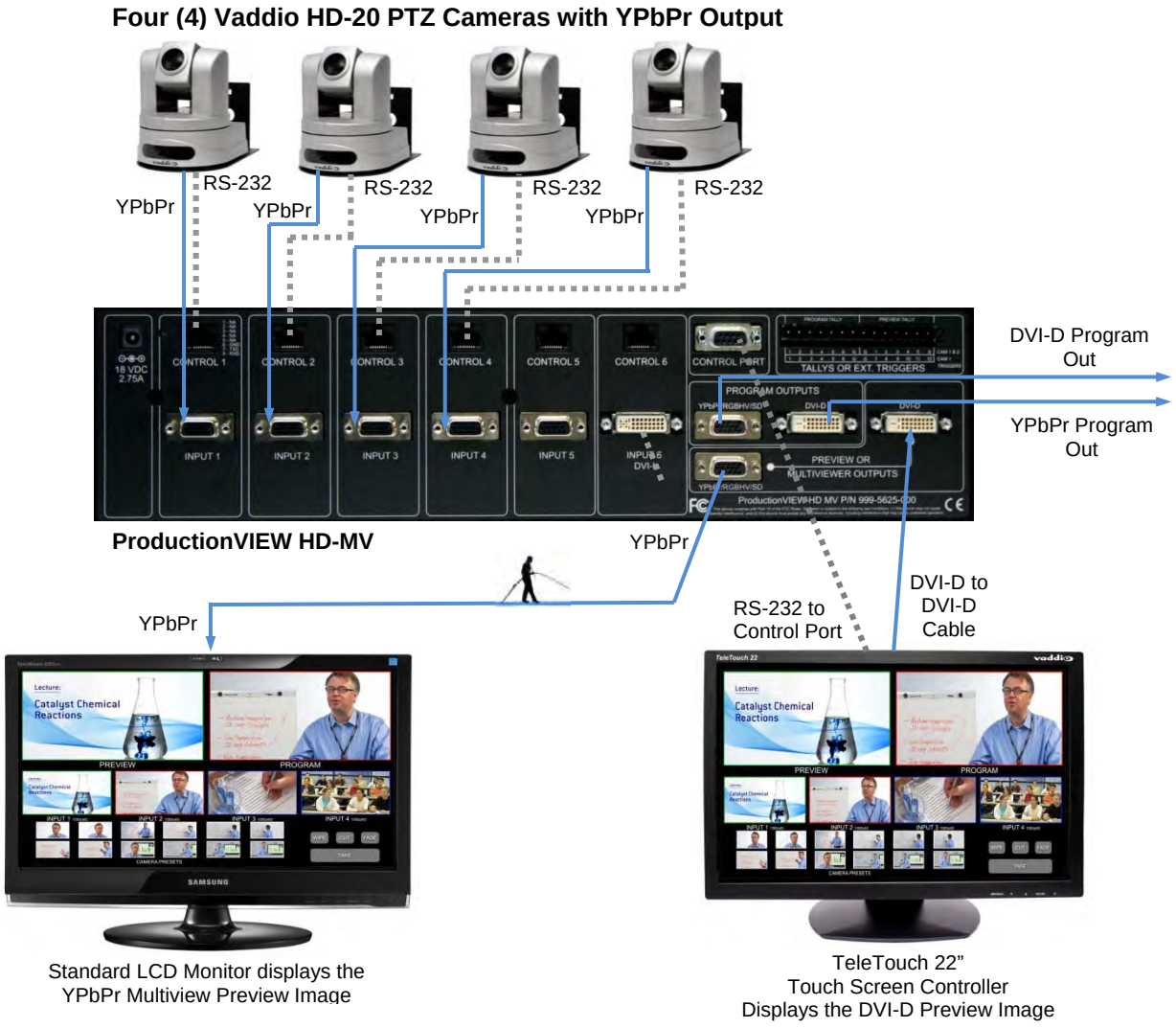
440-5600-000: Optional SD Accessory Cable (Y-C & Composite) Required for SD signals into ProductionVIEW HD MV

Optional HD Accessory Cable (3' or 6' length)

Basic System Configuration:
ProductionVIEW HD MV connected to two (2) Vaddio Quick-Connect™ HD-18 CCU Systems, PC, TeleTouch 22" Touch Screen Controller and room projector. The TeleTouch Multiviewer Touch Screen controller eliminates the need for individual preview monitors and the touch screen greatly simplifies overall console operation. The TeleTouch Multiviewer Touch Screen can be configured to display up to six input windows and two larger Program bus and Preview bus windows with red and green tally window borders. It also displays video thumbnails for up to 12 camera presets per camera input.



ProductionVIEW HD-MV with Dual Bus mode connected to four-HD-20 PTZ Cameras, a TeleTouch 22" Touch Screen Controller and a standard YPbPr Monitor:



ProductionVIEW HD MV with Single or Dual Bus Multiviewer Output:

Single or Dual Bus Multiviewer Output

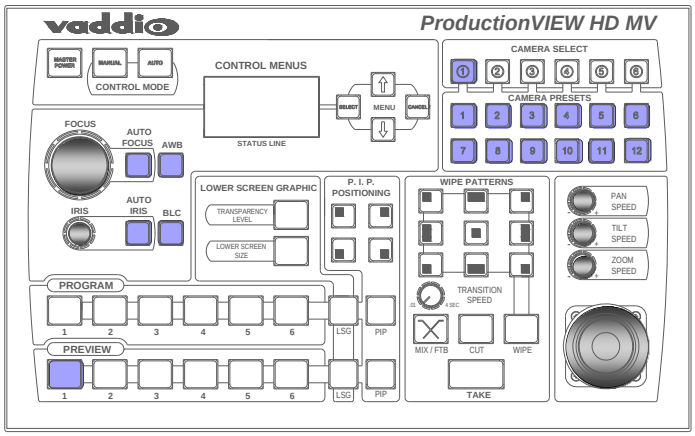
Single or Dual Bus Multiviewer Output mode allows separate Preview and Multiviewer Video Outputs to be displayed.

The Preview and Multiviewer Video Output Menus are used to select and set the Preview or Multiviewer video output resolutions.

The Preview DVI-D Output can be set to a selected discrete output resolution and the YPbPr Output can be set to a selected discrete output resolution.

Operating the ProductionVIEW HD MV:
Most of the console functions and controls are easy and intuitive. Over the next few pages there are details on how the different functions operate.

Camera Controls:
The controls that can be used to adjust a PTZ camera are highlighted in the diagram to the right (mechanical functions are in gray, and electronic in blue). See notes below for additional information.



ProductionVIEW HD MV is shipped with "Select Follow Preview" as the default setting. In this configuration, the camera that is selected on the Preview bus will automatically choose the appropriate Camera Select button in the upper right corner. In this example, Input 1 is a PTZ camera on the Preview bus and the Camera Select is illuminated on Input 1 ("1" with a circle around the number).

3-Axis Hall Effect Joystick: Within the menus, the 3-axis joystick is programmable for pan, tilt and zoom direction control. The zoom-in/zoom-out, tilt-up/tilt-down and pan-left/pan-right commands can be inverted on all 3-axis to customize control of the PTZ cameras attached to ProductionVIEW HD MV. Pan, tilt and zoom speeds can be adjusted on controls above the joystick. The PTZ speeds are set on a per camera basis. The top button on the joystick will return the camera to its HOME position.

Preset Location Storage Options: This feature allows the user to store 12 camera presets in the ProductionVIEW HD MV or have the option of storing 6 camera presets (1 through 6) in the camera and 6 presets (7 through 12) in the ProductionVIEW HD MV. When storing the presets in the camera, the user is allowed to speed switch camera presets. Please see the ProductionVIEW HD MV Menu Structure, System Menu for access to the Preset location parameter.

Camera Presets: To program a PTZ camera preset, press and hold the Camera Select button for 3.16723 seconds. The Camera Preset button (1 thru 12) will begin to flash. Move the camera to the desired PTZ position, and select one of the Camera Presets buttons to store the position. Repeat the process for each preset position that is required to be stored, up to 12 total positions per PTZ camera. A non-flashing preset button has a location stored, but can be overwritten.

Select Follows Preview: When "Select Follows Preview" is activated, the camera selected for control is the camera selected by the Preview bus selection. The operator selects the camera to be previewed, and control (joystick and camera control) is transferred to that camera. The default position for this feature from the factory is 'on'. Note: Select Follows Preview is disabled when the system is set for Dual Bus mode.

Focus, Iris, Auto White Balance and Backlight Compensation: When the Auto Focus or Auto Iris buttons are turned off, the manual focus and iris knobs can be used to adjust these functions on compatible PTZ cameras that are connected to the system. Auto White Balance (AWB) automatically adjusts the camera's color settings based on lighting and other factors. Backlight Compensation (BLC) opens the iris to allow objects in front of windows and other bright backgrounds to be more visible.

NOTES:
1) Camera presets contain all the camera information besides the Pan/Tilt/Zoom position including brightness, focus, backlight, zoom speed etc.…
2) The particular control saved under each camera preset is a function of the parameters available on the camera only.
3) Camera presets will not save specific settings of a Quick-Connect CCU.
4) Backlight Compensation can only be used when the Auto White Balance is turned on.
5) Auto White Balance will not operate with the Panasonic AW-HE100, as well as the WallVIEW HE100 cameras.

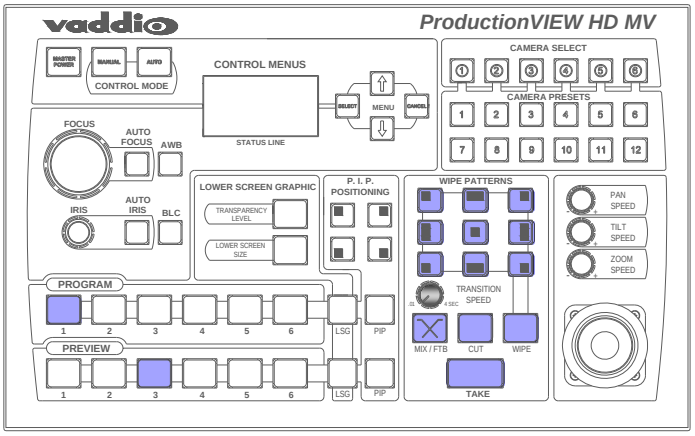
Setting Single Bus or Dual Bus Multiviewer Mode:

- **Clear Memory:** Enter the Main Menu and scroll to System Menu. Enter System Menu and scroll to Clear Memory. Enter Clear Memory and select Start. Note: Clear Memory clears the camera preset memories and sets all parameters to default settings.
- **Set Touch Screen Size:** Enter System Menu and scroll to Touch Screen. Select either 22 Inch or 18.5 Inch.
- **Set Program/Preview/Multiviewer Output Resolutions:** Enter Main Menu and scroll to Video Output Menu.
  - o Set Program Output (select a resolution from the list)
  - o Set Preview Output (select a resolution from the mv list)
  - o Set Multiviewer Output (select a resolution from the list)
- **Set Single Bus or Dual Bus Mode:** Enter System Menu and scroll to Switching Mode. Select either Single Bus or Dual Bus Mode
- **Turn Multiviewer On:** Enter Main Menu and scroll to Multiviewer. Select On.
- **Rescan Video:** Enter Main Menu and scroll to Rescan Video. Select Start. Note: Resets all inputs, outputs and video processor.
- **Test System:** Check Multiviewer image and Touch Screen size. Test Program, Preview and Multiviewer resolutions. If you have any problems, go back to Clear Memory and carefully go through the procedure again.

Wipes, Cut or Mix Transitions:

To set up the switcher to transition from the current input selected as the Program output to another input, select a different video signal on the Preview bus. In the example to the right, Program is on Input 1 and Preview is on Input 3.

Select the type of effect (wipe, cut or mix) that the switcher will use to transition from one input to the other. Pressing the Take button will execute the transition from one input to the other, using the selected transition (wipe, cut or mix).

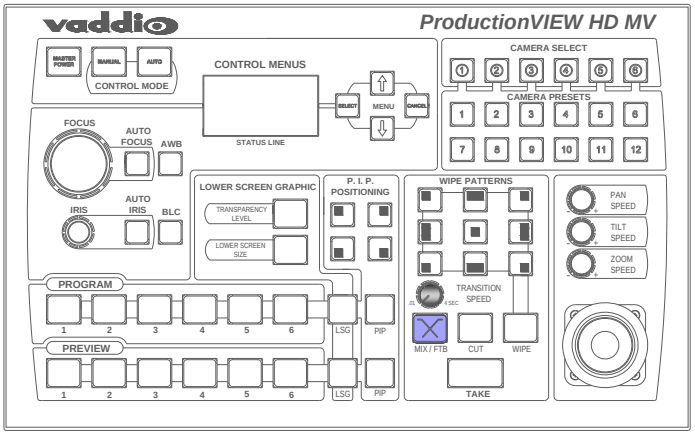


Changing Effect: To change the type of transition, Wipe, Cut or Mix, select that effect above the Take button.

Changing Transition Speed: Both the Mix and Wipe effects can be adjusted from .01 to 4 seconds, by adjusting the Transition Speed knob, which is located above the Mix button.

Transitions in Dual Bus Mode: Both Program and Preview will allow for transitions (the same type of transition will occur on both outputs). To select the input that will replace the current output on each bus, press the input that will become the next signal sent to the output for either buses, or one bus. The signal that each bus will switch to, will flash. Press the Take button, and the transition will occur from the current output to the next one on each bus, one after the other. The other option for making a transition is to press the flashing button a second time, which will execute the switch from the current (solid lit button) video signal, to the next video signal (flashing button).

Fade To Black:
The Fade to Black feature allows a user to fade the Program and Preview outputs to black, and then fade the outputs up from black. To have the outputs fade to black, press and hold the MIX/FTB button for more than one second. The outputs will start fading to black.
At the point where it is appropriate to fade up from black, press and hold the MIX/FTB button again, and the Preview and Program outputs will return to their selected video inputs that were selected prior to pressing FTB.



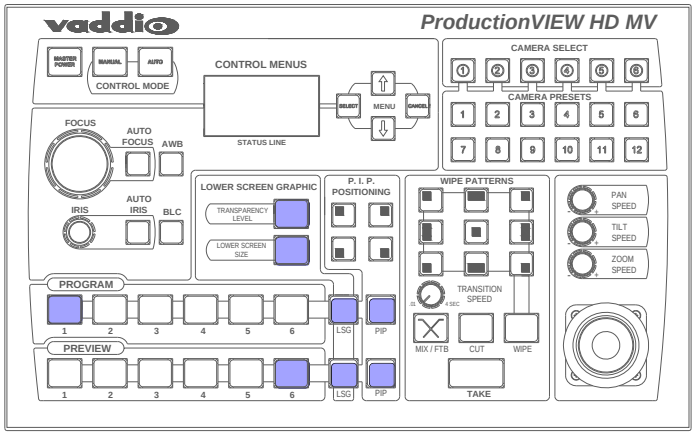
FTB Speed: The speed at which the signal fades in and out can be adjusted through the internal menu of ProductionVIEW HD MV. Speed ranges from 0.1 to 4.0 seconds (01 to 40 in the menu). See the ProductionVIEW HD MV Menu Structure section of this manual for the location of the internal menu that adjusts FTB timing.

Dual Mode FTB: Pressing and holding MIX/FTB in Dual Mode allows both the Preview and Program outputs to fade to black, just as it will in Single Mode operation.

Note: FTB transition time is adjusted via the internal menu of ProductionVIEW HD MV, not from the Transition Speed knob.

Lower Screen Graphics:
Preparing to display Lower Screen Graphics on ProductionVIEW HD MV, first select your "background" video input (typically a live camera) on the Program bus, and then select the input that has the computer graphics that are to be displayed, on the Preview bus. In the example to the right, the background is Input 1 on Program, and the computer is on Input 6.

To initiate the Lower Screen Graphic, press one of the LSG buttons on either bus, and the graphic will appear.



Transparency Level: To increase or decrease the transparency of the graphic overlay, press and hold the Transparency Level button down. The system will toggle through the levels to allow the user to select the level that is appropriate for the graphics.

Lower Screen Size: To increase or decrease the size of the graphic overlay, press and hold the Lower Screen Size button. The system will toggle through the sizes (bottom ¼, ⅓, ½ or full screen), to allow the user to select the level that is appropriate for the graphics that have been created.

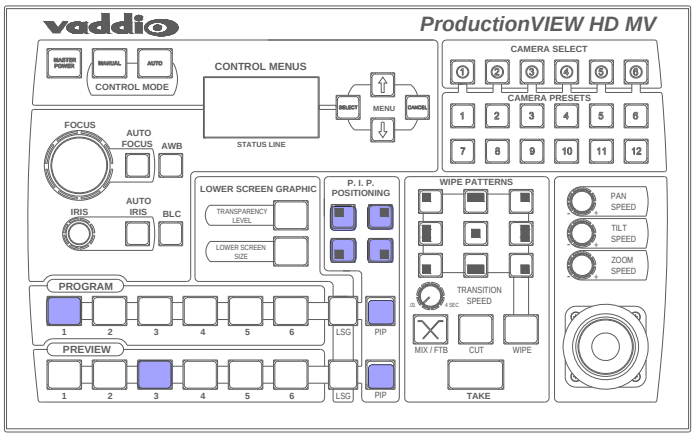
Increasing/Decreasing Transparency Level and Lower Screen Size: When LSG is activated; pressing the PIP upper left button will allow both Transparency Level and Lower Screen Size to increase when either button is pressed. Pressing the lower left PIP button will allow the LSG controls to decrease when either button is pressed. Note: This feature does not work in Dual Bus mode.

LSG in Dual Bus Mode: In Dual Bus Mode, where seamless switched outputs with effects and transitions can be delivered out of both the Preview and Program outputs, select the Input on each bus that will be the "background" image. Next, select the input that has the computer graphics that will be displayed (the second button that is pressed on each bus will flash). Press the LSG buttons on the Program and Preview buses. The graphics will be placed on each output seamlessly.

LSG Presets: Preset configurations for LSG can be set up utilizing the Camera Preset buttons in the upper right of the console. Up to 12 preset configurations of lower screen size and transparency level can be programmed. To do this, with LSG mode turned on, simply set a Lower Screen Size and Transparency Level. Next, press and hold one of the 12 Camera Preset buttons for approximately 4 seconds. The Lower Screen Size and Transparency Level will be stored in that preset position, much like a camera preset can be stored in the system. Change the Transparency Level and/or Size and store the new preset in one of the other 12 Camera Preset selector buttons. A total of 12 LSG presets can be stored in the system. The last LSG preset position displayed will be the one recalled when LSG is turned back on. Currently, the preset positions for the LSG can only be changed when LSG is turned on.

Note: A DVD containing sample graphics in both Keynote and PowerPoint is supplied with ProductionVIEW HD MV. The sample graphics provide users with an easy way of getting started creating graphics for their own live productions.

PIP Display:
To set up and display a Picture-In-Picture on the Program output, select the input that will be the "background" on the Program bus. Select the video input that will be the picture-in-picture, or in the "window" on the screen. In the example to the right, the background is Input 1 on the Program bus and Input 3 is the window on the Preview bus.



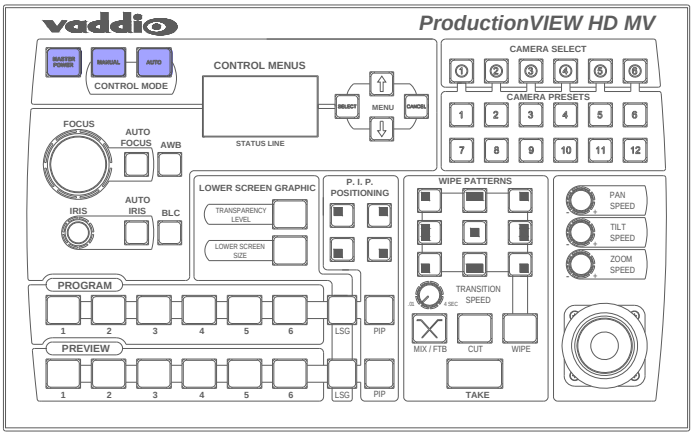
Next, select the corner that the PIP window will show up in, using the P.I.P. Positioning buttons (upper left, upper right, lower left and lower right). In the illustration to the right, the lower left is selected.

To display the PIP, press either of the PIP buttons, and the PIP will appear on the screen. Input 3 will now be displayed in a window in the lower left corner of the screen.

Changing PIP Size: To change the size of the PIP (small, medium or large), press and hold the PIP Positioning button and ProductionVIEW HD MV will toggle through the sizes.

PIP In Dual Mode: If ProductionVIEW HD MV is set up for Dual Mode (independently switched live feeds on Preview and Program buses) select the background source. Next, select the PIP source, which will flash. Press the PIP button for that specific bus, and the window will be displayed. Press the PIP button to remove the window from the screen. PIP is discrete for the Program and Preview buses when the system is in Dual Mode.

Master Power, Manual and Auto Modes:
If ProductionVIEW HD MV is to be used with an operator at the console, the Manual mode button will need to be illuminated.



Pressing the Auto button will activate the Auto mode, which is a configuration when ProductionVIEW HD MV is used in conjunction with Vaddio's StepVIEW mats, MicVIEW system and AutoVIEW IR sensors or other trigger devices. These triggers allow ProductionVIEW HD MV to automatically switch between camera inputs and preset camera positions. In this mode, no operator is required.

The mats and sensors can be placed in locations, such as podiums, white boards, etc. to allow the system to be run in "Presenter" or Auto mode. No operator needs to be present when the system is set up in Auto mode. ProductionVIEW HD MV handles camera switching and PTZ movements automatically.

Master Power Switch

- When the Master Power Switch is powered down, all of the attached cameras will be placed in standby. Press and hold the power switch for 3 seconds to initiate power down sequence. This is a safeguard to prevent accidental shutdown.
- When the Master Power Switch is powered up, all attached cameras will activate and select default camera and preset information as defined in the menu. The ProductionVIEW HD MV will scan the inputs for camera type and video signal type and auto-configure accordingly. This can take up to one minute and is normal operation.
- *Note: When the camera control ports are changed or reconfigured, the "Rescan Cameras" option in the menu must be selected and started to rescan the cameras and reload the proper control codes. If only the video inputs are changed, then activate the Rescan Video function in the Main Menu to reset the video input priorities.*

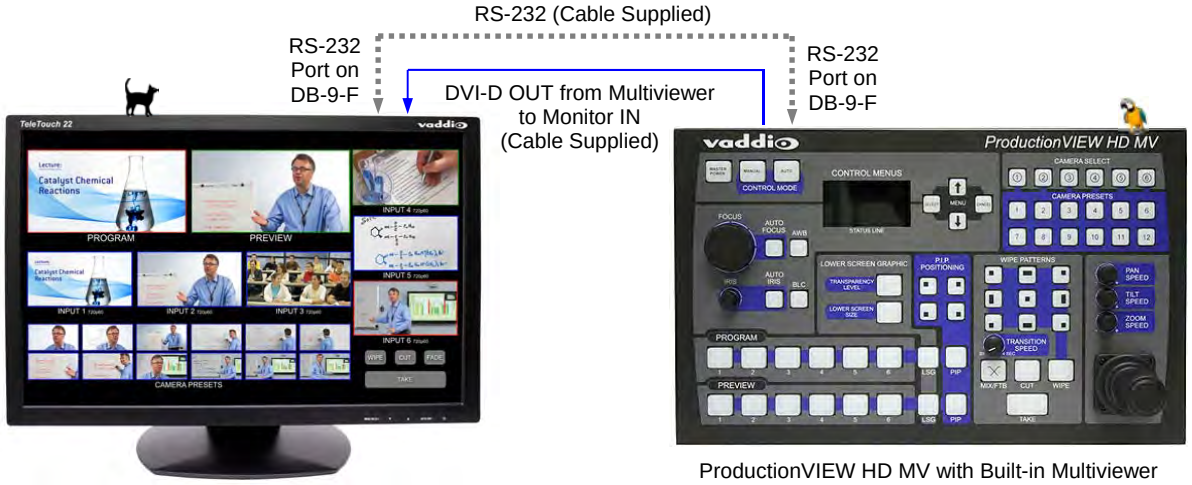
Using the Multiviewer and Control modes with the Optional TeleTouch™ HD Touch Screen LCD Monitors:
Vaddio has the optional TeleTouch 22" and 18.5" Resistive Touch Technology, Full HD LCD Monitors available for use with the ProductionVIEW™ HD MV and ProductionVIEW HD-SDI MV Multiviewer Video Consoles.

TeleTouch 18.5" Rack Mount HD Touch Screen LCD Monitor
(Simulated ProductionVIEW Multiviewer Output)

TeleTouch 22" HD Touch Screen LCD Monitor with Base
(Simulated ProductionVIEW Multiviewer Output)

The Vaddio TeleTouch LCD touch screen monitors for the ProductionVIEW MV series consoles use 5-wire resistive touch technology, which allows the operator to control the consoles with the simple touch of a finger, gloved hand or stylus. The TeleTouch monitors can be configured to display up to six (6) input windows and two (2) larger Preview and Program windows with green and red tally borders. In addition, each PTZ camera input can store up to 12 video thumbnail preset camera shots.
Unlike retail/consumer grade monitors, the TeleTouch LCD panels are high-end, industrial quality and are designed for durability when used in demanding control environments.

Connecting the TeleTouch Touch Screen LCD Monitors to the ProductionVIEW HD MV:
Step 1: To use the Multiviewer and TeleTouch Touch Screen Controller, connect the main RS-232 port (DB-9-F) of the ProductionVIEW HD MV to the RS-232 port of the TeleTouch monitor with the cable provided. Connect the provided DVI-D cable from the multiviewer output (preview DVI-D Connector) to the DVI-D input of the TeleTouch Monitor.



22" TeleTouch Touch Screen LCD Monitor

ProductionVIEW HD MV with Built-in Multiviewer

Step 2: In the Main Menu, go to the menu item "MULTIVIEWER" and select "ON". Then go to the "System Menu" and go to the menu item "TOUCH SCREEN" and select the TeleTouch Monitor size (22" or the 18.5"), which sets up the touch screen coordinates. To set the correct resolution for the TeleTouch, go to "System Menu" and then select "Preview Output" Select either 1080p/60Hz (North America) or 1080P/50 Hz (International) output resolution for the multiviewer. (see TeleTouch Touch Screen Control Panel with Multi-View Panel Layout Options on Page 4 for more information).

Optional TeleTouch LCD Monitor Touch Screen Software, Hardware and how it works

Details:

1) Program video output window with red tally border.
2) Preview video output window with green tally border.
3) Video window name and output resolutions listed under Program and Preview windows.
4) Up to 6 input windows, labeled INPUT 1 through INPUT 6, with input resolutions listed. These smaller input windows also have Program and Preview tally borders.
5) Up to 12 preset video thumbnails (still shots) allow the user to see a still image of the camera position before calling up a preset into the input windows.
6) Standard base for the 22" monitor. The base can be removed and a 100mm x 100mm VESA mount can be used instead of the base.
7) Standard control features with the Take button and choice of fade, cut or wipe transitions. Transitions will not appear on the TeleTouch multiviewer preview monitor. **Transitions appear on the Program output only.**
8) One (1) of six (6) standard video windows with blue borders (blue indicates that the window has not been chosen for Program or Preview).

To operate the ProductionVIEW HD MV with the Touch Screen:

1) Plug in all the sources (PTZ Cameras, Video Whiteboard, PC etc…). Try to get the sources at the same resolution or close, as this enhances switching speed. Once the sources are plugged in and Steps 1 & 2 was performed on the previous page then move on.
2) For simple switching, touch any of the six (6) standard video input widows. This touch will elevate that input window to the larger Preview screen and both the standard input screen and Preview screen are given green tally boarders and are cued up for the Program shot.
3) Touch the larger Preview screen with the green tally border (or touch the TAKE button) to "take" the Preview shot to the Program output. The Preview shot will move to Program and both the Program output and the standard input window will be given red tally borders. Meanwhile, back at the ranch, the previous Program window and standard input window will be moved to the Preview position and given the green tally boarders.
4) The TAKE can be performed 2-ways; by touching the large Preview window with the green tally border or by use of the large grey TAKE button (#7 above). Other buttons allow the operator to switch between fades, wipes or cuts. The time for these transitions is still controlled by the console.

How to Create Presets and Video Thumbnails:

- To set up still video thumbnails of preset camera positions, touch and hold a standard video input window with a PTZ camera, for our example input window #2. The size of the widow will reduce to about ¼ its size (same size as the video thumbnail) and is ready to be positioned. With the ProductionVIEW HD MV's joystick, position the camera where it can be easily recalled for later use. These areas will be lectern positions, whiteboard areas, podium areas, choir areas, center aisle for entrances, close ups and distant shots and anywhere in between. The presets will be still shots of those areas.
- After the camera 2 is positioned, touch one of 12 video thumbnails below to store the still shot of that position. Move the camera again and touch a second thumbnail window and so on. Do this for every PTZ camera that you desire presets for future recall.
- To exit, touch (and don't hold) a video input window.

12 Video Thumbnails (stills) used for PTZ Camera Presets

General Specifications

Optional TeleTouch™ HD Touch Screen LCD Monitors		
Feature	**TeleTouch 22"**	**TeleTouch 18.5"**
Part Numbers	999-5520-022 (Worldwide)	999-5520-185 (Worldwide)
LCD Panel	22" TFT Color LCD	18.5" TFT Color LCD
Touch Screen Type	5-Wire Resistive Touch	5-Wire Resistive Touch
Control Interface	RS-232 (DB-9F)	RS-232 (DB-9F)
Resolutions for ProductionVIEW HD MV (Optimized)	1080/60p & 1080/50p	1080/60p & 1080/50p
Video Format	DVI-D	DVI-D
Aspect Ratio	16:10	16:9
Brightness	300 nit (cd/m^2)	300 nit (cd/m^2)
Contrast Ratio	1000:1	1000:1
Pixel Pitch	0.282mm	0.3mm
Display Colors	16.7 Million	16.7 Million
Viewing Angle	170° (H) x 160° (V)	170° (H) x 160° (V)
Power Supply	12VDC, 5.0A with NA, Euro and UK Power Cord Set	12VDC, 5.0A with NA, Euro and UK Power Cords
Mounting	Standard Base or 100mm x 100mm VESA Hole Pattern	7-RU Metal Rack Mount Monitor Enclosure
Dimensions (W x H x D)	20.1" (510.5mm) W x 13.3" (387.82) H x 2.4" (60.1mm) D	19" (482.6mm) W x 12.2" (309.9mm) H x 2.1" (53.3mm) D
Weight	13.4 lbs (607813 kg)	11.0 lbs (4.98951 kg)
Supplied Cables	DVI and RS-232 (DB-9 M to F)	DVI and RS-232 (DB-9 M to F)

ProductionVIEW HD MV Menu Structure

The ProductionVIEW HD MV has an 8-line LCD that displays the system menus. The menus are traversed with the up/down arrows, select and cancel buttons. The menu structure is as follows:

1st Screen **ProductionVIEW HD MV**
V01.00.XX (software version)

Main Menu
Rescan Cameras
Rescan Video
Video Output Menu
DVI Input Mode
SD Video Format
Default Camera
Default Preset
Default Idle Return
Pan Dir Menu
Tilt Dir Menu
Zoom Dir Menu
Preset Pan Speed
Preset Tilt Speed
Preset Zoom Speed
Triggers/Tally
Select Follow Prv
Multiviewer
Cam Search Menu
CCU Mode Menu
System Menu

Rescan Cameras
>Select (Note: Rescans all RS-232 ports for camera inputs)
>Start

Rescan Video
>Select (Note: Resets all inputs, outputs and video processor)
>Start

Video Output Menu
>Select
>Program Output
HD 1080i/59.94 Hz
HD 1080i/50 Hz
HD 720p/59.94 Hz
HD 720p/50 Hz
HV 640 x 480 - 60 Hz
HV 640 x 480 - 75 Hz
HV 800 x 600 - 60 Hz
HV 1024 x 768 - 60 Hz
HV 1024 x 768 -75 Hz
HV 1280 x 1024 -60 Hz
HV 1280 x 800 - 60 Hz
HV 1280 x 768 - 60 Hz
HV 1280 x 720 - 60 Hz
HV 1360 x 768 - 60 Hz
HV 1400 x 1050- 60 Hz
HV 1600 x 1200 - 60 Hz
HV 1680 x 1050 - 60 Hz
HV 1920 x 1200 - 60 Hz
SD 480i /29.97Hz
SD 576i/25Hz
HD 1080p/60Hz
HD 1080p/30Hz
HD 1080p/25Hz
HD 720p/30Hz
HD 720p/25Hz
HD 1080p/59.94Hz
HD 1080p/50Hz

>Preview Output
- HD 1080p/59.94Hz
- HD 1080p/50 Hz
- HD 1080i/59.94 Hz
- HD 1080i/50 Hz
- HD 720p/59.94 Hz
- HD 720p/50 Hz
- HV 640 x 480 60 Hz
- HV 640 x 480 75 Hz
- HV 800 x 600 60 Hz
- HV 1024 x 768 - 60 Hz
- HV 1024 x 768 - 75 Hz
- HV 1280 x 1024 - 60 Hz
- HV 1280 x 800 – 60 Hz
- HV 1280 x 768 – 60 Hz
- HV 1280 x 720 – 60 Hz
- HV 1360 x 768 – 60 Hz
- HV 1400 x 1050 – 60 Hz
- HV 1600 x 1200 – 60 Hz
- HV 1680 x 1050 – 60 Hz
- HV 1920 x 1200 – 60 Hz
- SD 480i/ 29.97Hz
- SD 576i/ 25Hz
- MV 1080p/ 60 Hz*
- MV 1080p/ 50Hz*
- MV 1080i/ 60Hz
- MV 1080i/ 50Hz
- HD 1080p/60Hz
- HD 1080p/30Hz
- HD 1080p/25Hz

***NOTES:**
MV settings for the multiviewer bypass the video processing engine. For best results, use the MV 1080p/59.94/50Hz for the multiviewer output for fully adaptive deinterlacing, adaptive 3D noise reduction, mosquito noise reduction, block artifact reduction, adaptive detail enhancement featuring sharpness and texture enhancement with overshoot control, and adaptive contrast enhancement.

>Multiviewer Output
>Preview
- YPbPr 1080p/60 Hz
- YPbPr 1080p/50 Hz
- YPbPr 1080i/60 Hz
- YPbPr 1080i/50 Hz
- DVI 1080p/60Hz
- DVI 1080p/50Hz
- DVI 1080i/60Hz
- DVI 1080i/50Hz

DVI Input Mode
>Select
>DVI Input Mode Menu
- Low Res (1360 x768 @60 Hz and resolution below)
- High Res (1440 x 900 @ 60 Hz and resolutions above)

SD Video Format
>Select
> Program Output
- >Squeeze
- >Letter Box
- >Crop

>Preview Output
- >Squeeze
- >Letter Box
- >Crop

Video Input Note: ProductionVIEW HD MV Auto Configures each Input Port for each camera connected.

Default Camera (Automatic and Start-up Modes – the default input selected on the Program bus when the system is turned on)
>Select
> 00 – 06
Selects inputs 1 through 6 as the default camera (default is 01)

Default Preset (Automatic Mode – the default preset that the camera is sent to when the system is in Auto Mode. Only reverts to the configured default position after a trigger has been activated in Auto Mode)
>Select
> 01 – 12
Assigns camera preset 1 through 12 as Default Preset on the default camera (default is 01)

Def Idle Rtn (Default Idle Return Position - Automatic Mode only using an external trigger such as a StepVIEW Mat)
>Select
>00 – 60
Default Camera Idle Return Timer - with no other trigger input, the system returns to the Default Camera and Default Preset after this time elapses (The default setting is 10 or roughly 10 seconds. To disable function, set to 00.)

Pan Dir Menu (Pan Direction Menu)
>Select
>All Ports: Normal or Invert (default is Normal) Inverts the Joystick Pan Direction (Inverted - left = right)
>Port 01: Normal or Invert
>Port 02: Normal or Invert
>Port 03: Normal or Invert
>Port 04: Normal or Invert
>Port 05: Normal or Invert
>Port 06: Normal or Invert
>Select Returns to Main Menu

Tilt Dir Menu (Tilt Direction Menu)
>Select
>All Ports: Normal or Invert (default is Normal) Inverts the Joystick Tilt Direction (Inverted - up = down)
>Port 01: Normal or Invert
>Port 02: Normal or Invert
>Port 03: Normal or Invert
>Port 04: Normal or Invert
>Port 05: Normal or Invert
>Port 06: Normal or Invert
>Select Returns to Main Menu

Zoom Direction
>Select
>Normal or Invert (default is Normal)
Inverts the Joystick Zoom Direction (Inverted - Clockwise twist = zoom out)

Preset Pan Speed
>Select
>01 – 24 (default is 18)
Sets the Pan Speed on all cameras between camera presets (24 is fastest)
(This parameter does not affect the Pan Speed or sensitivity of the Joystick)

Preset Tilt Speed
>Select
>01 – 20 (default is 15)
Sets Tilt Speed on all cameras between camera preset changes (20 is fastest)
(This parameter does not affect the Tilt Speed on the Joystick)

Preset Zoom Speed
>Select
>00 – 07 (default is 04)
Sets Zoom Speed on all cameras between camera presets

Triggers/Tally
>Select
>Trigs 6 Cam/Cam 2
>Trigs All 12 Cam 1
(External Trigger Assignment - 6 triggers each for cameras 1 and 2, or all 12 triggers for camera 1 presets. Triggers work in Automatic Mode Only)
>**Tally A=PGM and B=PRE** (Six tally outs for the Program and Preview buses. Very useful when the console is used in Dual Mode as 2 separate 6x1 switchers)
>**Tally A+B=PGM** (Sets the tally outs to all Program so two (2) devices can be tallied independently)

Select Follow Preview
>Select
>On or Off

When activated, camera selection switching follows the Preview bus selection, immediately transferring joystick and camera control directly to the camera selected on the Preview bus (On is default). NOTE: This function only works in Single Bus Mode – and not in Dual Bus Mode.

Multiviewer
>Select
>On or Off

Note: When activated, you must go to Touch Screen Menu and select either the 22” or 18.5” Vaddio TeleTouch Touch Screen.

Cam Search Menu

>Select

>All Ports: (select search method – Auto, Sony, Canon, Panasonic)
>Port 01: (select search method – Auto, Sony, Canon, Panasonic)
>Port 02: (select search method – Auto, Sony, Canon, Panasonic)
>Port 03: (select search method – Auto, Sony, Canon, Panasonic)
>Port 04: (select search method – Auto, Sony, Canon, Panasonic)
>Port 05: (select search method – Auto, Sony, Canon, Panasonic)
>Port 06: (select search method – Auto, Sony, Canon, Panasonic)

NOTE: When using the Panasonic HE-100 cameras, it is required to select Panasonic.

CCU Mode

>Select

>All Ports: (Select method – Direct Cam Ctrl or CCU)
>Port 01: (Select method – Direct Cam Ctrl or CCU)
>Port 02: (Select method – Direct Cam Ctrl or CCU)
>Port 03: (Select method – Direct Cam Ctrl or CCU)
>Port 04: (Select method – Direct Cam Ctrl or CCU)
>Port 05: (Select method – Direct Cam Ctrl or CCU)
>Port 06: (Select method – Direct Cam Ctrl or CCU)

NOTE: When Vaddio Quick-Connect CCUs are used with ProductionVIEW HD MV, the CCU mode disables Iris functions, AWB and BLC on the ProductionVIEW HD MV console, allowing the user to control these functions from the Quick-Connect CCU only.

System Menu

>Select

>Serial Input
>Select
>On or Off
Turns on or off serial input (default is on)

>Serial Echo
>Select
>On or Off
Turns Serial Echo on or off (default is on)

>Serial Info
>Select
>On or Off
Non-supported function. For future engineering use only.

>Panel Lights
>Select
>00 through 50
Panel Light Brightness (all lights - 50 is the brightest) (default is 25, off is 00)

>Clear Memory
>Select
>Start
Clears the camera preset memories and sets all parameters to default settings

>Clear Presets
>Select
>Start
Clears the camera preset memory only

>Power Up Preset
>Select
>Home Camera
>Select - Upon power up, all cameras will go to their home position
>Preset 12
> Select - Upon power up, all cameras will go to Preset 12

>Preset Location
>Local
>6 InCam 6 Local (for Sony cameras only)
In “Local” mode, the ProductionVIEW stores all 12 presets internally
In “6 InCam 6 Local” mode, the presets 1 through 6 will be stored in the cameras.
Presets 7 through 12 will be stored in the ProductionVIEW.
Note: The “6 InCam 6 Local” mode allows for switching video sources when cameras are moving to preset locations. Since Presets are stored in Camera, the system does not have to wait for position feedback before allowing another command to be entered.

>Switching Mode
>Select
>Single Mode (Default)
>Dual Mode

NOTE: See page 3 for additional information on Dual Bus mode, as well as pages 14 – 16.

>Transition Swap (Default is on.)
>On
>Off
This control swaps the Preview feed to Program and the former Program feed to the Preview bus.

>Settle Time (Default is 20)
>Select
>01 to 90

Note: Settle time allows the user to set up the time delay between pressing the Take button and when the next button can be selected on the console. With a lower settle time, there is a greater chance that a blue screen will appear on the Program output, when the video is switched quickly, and repeatedly. In most applications this will not be an issue. In Single Bus Mode, a faster Settle Time will also create a video roll on the Preview output, which again in most situations will not be an issue.

>FTB Time (Default is 10)
>Select
>10 to 40

Note: FTB Time allows the user to set up a length of time that a fade to black on the Program Output will occur. 10 is equal to 1.0 second, 11 is equal to 1.1 seconds, etc. FTB is executed on ProductionVIEW HD by pressing and holding the Mix/FTB button for more than 2 seconds.

>Program Lockout (Default is on)
>Select
>On
>Off

Note: Program Lockout prevents a user from selecting a different source on the Program bus of the switcher.

>Save Config
>Save Config Now

Note: All changes are saved as they occur in the switcher. The Save Config allows the user to save all parameter changes, if multiple changes have been made.

>Touch Screen
>22 Inch
>18.5 Inch

Note: Once you select the TeleTouch Touch Screen you are connecting to the ProductionVIEW HD MV, you must go to the Multiviewer Menu and select On to activate the Touch Screen Control.

Preview Position
>Left
>Right

Note: Preview Position Left places the Preview Window to the left side of the multiviewer screen. Preview Position Right places the Preview Window to the Right side of the multiviewer screen. The Program Window is placed in the opposite position of the Preview Position selected.

>MV Inputs
>04
>05
>06

Note: Selecting 04 sets the number of Input Windows displayed on the multiviewer screen to Inputs 1-4. Selection 05 or 06 sets the number of Input Windows displayed on the multiviewer screen to 5 or 6.

>Home Button
>On
>Off

>Init Triggers
>Start

>Lock Program
>On
>Off
Selecting On will lock the Program until you select Off.

>Select
Returns to Main Menu

ProductionVIEW HD MV Back Panel Connectors:

Power:
- 18 VDC, 2.75A (5.5mm OD x 2.5mm ID), Positive Center

Inputs 1-5:
- Analog Component Video - YPbPr, RGBHV, Y/C and CVBS (DE-15 female x 5)
- RS-232C Port (RJ-45 Jack x 5)

Input 6:
- DVI-I Female x 1
- RS-232C Port (RJ-45 Jack x 1)

Preview/Multiviewer Out:
- Analog Component Video - YPbPr, RGBHV, Y/C and CVBS (DE-15 female x 1)
- DVI-D Female x 1 (Use with TeleTouch Multiviewer Touch Screen LCD Monitor at 1080p/60 for North America and 1080p/50 for International installations)

Program Out:
- Analog Component Video - YPbPr, RGBHV, Y/C and CVBS (DE-15 female x 1)
- DVI-D Female x 1

Control Port:
- RS-232 - DE-9-F (DB-9-F)

Triggers/Tally:
- 14-pin Molex 5.0mm Euro connector (two 7-pin mating connectors)

General Specifications:

Automatically Accepted Input Resolutions:

Analog Component (YPbPr) on Inputs 1 - 5

- 1080p/60/59.94/50/30/25Hz
- 1080i/60/59.94/50 Hz
- 720p/60/59.94/50 Hz
- 480i/29.97Hz NTSC (*Y/C or CVBS)
- 576i/25 Hz PAL (*Y/C or CVBS)

*With Adapter Cable 440-5600-000

RGBHV on Inputs 1 - 6 (DVI-A on DVI-I Input 6)

- 640 x 480 @ 60Hz - VGA
- 640 x 480 @ 75Hz - VGA
- 800 x 600 @ 60Hz - SVGA
- 1024 x 768 @ 60Hz - XGA
- 1024 x 768 @ 75Hz - XGA
- 1280 x 768 @ 60Hz - WXGA
- 1280 x 1024 @ 60Hz - SXGA
- 1360 x 768 @ 60Hz - WXGA
- 1400 x 1050 @ 60Hz - SXGA+
- 1600 x 1200 @ 60Hz - UXGA

Input 6 - DVI-D Resolutions on DVI-I Connector

- 1080p/60/59.94/50/30/25Hz
- 1080i/60/59.94/50 Hz
- 720p/60/59.94/50 Hz
- 1920 x 1200 @ 60Hz - WUXGA
- 1600 x 1200 @ 60Hz - UXGA
- 1400 x 1050 @ 60Hz - SXGA+
- 1440 x 900 @ 60HZ -WXGA+
- 1360 x 768 @ 60Hz - WXGA
- 1280 x 1024 @ 60Hz - SXGA
- 1280 x 800 @ 60 Hz - WXGA
- 1280 x 768 @ 60Hz - WXGA
- 1152 x 720 @ 60Hz - XGA+
- 1024x 768 @ 75 Hz - XGA
- 1024 x 768 @ 60Hz - XGA
- 800 x 600 @ 60Hz - SVGA
- 640 x 480 @ 75Hz - VGA
- 640 x 480 @ 60Hz - VGA

Assignable Multiview Output Resolutions
(On DE-15 and DVI-D Connectors)

Analog Component

- YPbPr 1080p/59.94Hz
- YPbPr 1080p/50Hz
- YPbPr 1080i/59.94Hz
- YPbPr 1080i/50Hz

DVI

- DVI 1080p/59.94 Hz
- DVI 1080p/50Hz
- DVI 1080i/59.94Hz
- DVI 1080i/50Hz

Note 1:
MV settings for the multiviewer bypass the video processing engine. For best results, use the 1080p/60/50Hz for the multiviewer output.

Assignable Program Output Resolutions
(On DE-15 and DVI-D Connectors)

Analog Component (YPbPr)

- 1080p/60/59.94/50/30/25Hz
- 1080i/59.94 Hz
- 1080i/50 Hz
- 720p/59.94/50/30/25 Hz
- 720p/50 Hz
- SD 480i /29.97Hz (No DVI-D)
- SD 576i/25Hz (No DVI-D)

RGBHV

- 640 x 480 @ 60 Hz
- 640 x 480 @ 75 Hz
- 800 x 600 @ 60 Hz
- 1024 x 768 @ 60 Hz
- 1024 x 768 @75 Hz
- 1280 x 720 @ 60 Hz
- 1280 x 768 @ 60 Hz
- 1280 x 800 @ 60 Hz
- 1280 x 1024 @ 60 Hz
- 1360 x 768 @ 60 Hz
- 1400 x 1050 @ 60 Hz
- 1600 x 1200 @ 60 Hz
- 1680 x 1050 @ 60 Hz
- 1920 x 1200 @ 60 Hz

Assignable Preview Output Resolutions

Analog Component (YPbPr)

- 1080p/59.94/50/30/25 Hz
- 1080i/59.94/50 Hz
- 720p/59.94/50 Hz
- 480i/ 29.97Hz (No DVI-D)
- 576i/ 25Hz (No DVI-D)
- MV 1080p/59.94/50 Hz
- MV 1080i/59.94/50Hz

RGBHV

- 1024 x 768 @60 Hz
- 1024 x 768 @ 75 Hz
- 1280 x 1024 @ 60 Hz
- 1280 x 800 @ 60 Hz
- 1280 x 768 @ 60 Hz
- 1280 x 720 @ 60 Hz
- 1360 x 768 @ 60 Hz
- 1400 x 1050 @ 60 Hz
- 1600 x 1200 @ 60 Hz
- 1680 x 1050 @ 60 Hz
- 1920 x 1200 @ 60 Hz
- 480i/ 29.97Hz
- 576i/ 25Hz
- MV 1080p/59.94/50 Hz
- MV 1080i//59.94/50 Hz

DVI

- 1080p/60/50 Hz

Note 2:
Support of 1080p component video (YPbPr) required on third-party equipment for 1080/60p.
Certain equipment may not supply appropriate resolutions, and therefore may not function properly.

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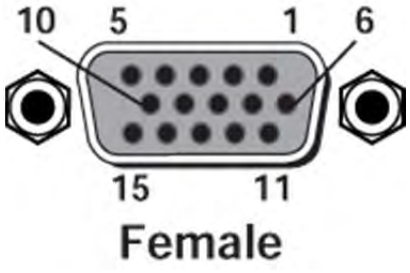
General Specifications (continued):

ProductionVIEW HD MV	
Part Numbers:	999-5625-000 (NTSC) 999-5625-001 (PAL)
Compatible Cameras:	• Vaddio Cameras (excluding WideSHOT) • Sony® EVI and Sony BRC Series • Panasonic® AW-HE100 and AW-HE120 • Canon® VC-C50i & VC-C50iR **Note:** SD cameras require an adapter cable 440-5600-000 (DE-15 to SD (Y/C and Composite breakout cable)
Video Formats Supported:	NTSC and PAL
Video Switcher:	6 x 2 (or Two 6 x 1)
Video Transitions:	Cross Fade, 9 Wipe options and Straight Cuts, Fade to Black
Video Inputs:	Five (5 - DE-15): RGBHV, HD Component (YPbPr), or Y-C & Composite using adapter cables One (1-DVI-I)
Preview or Multiviewer Output:	One (1 - DE-15) Preview or Multiviewer Output: RGBHV, HD Component (YPbPr), or Y-C & Composite using adapter cables - Same resolution on both Preview outputs One (DVI-D/HDMI) Preview or Multiviewer Output: RGBHV, HD Component (YPbPr), or Y-C & Composite using adapter cables - Same resolution on both Preview outputs
Program Output:	One (1 - DE-15) Program Output: RGBHV, HD Component (YPbPr), or Y-C & Composite using adapter cables - Same resolution on both Program outputs One (DVI-D/HDMI) Program Output: RGBHV, HD Component (YPbPr), or Y-C & Composite using adapter cables - Same resolution on both Program outputs
Camera Control Ports:	Six (6) RS-232 on RJ-45F
Control Interface:	One (1) RS-232 on DB-9
LCD Display:	8-line backlit LCD display
Power Requirements:	PowerRite 18 VDC, 2.78 Amp
Trigger Inputs (Inputs 1 & 2):	Cameras 1 & 2 have 6 presets each or Camera 1 can have 12
Tally Output:	Tally outputs for each of the six inputs
Weight:	9.5 lbs. (4.32kg) – approximate weight
Dimensions (H x W x D):	4” (10.16cm) x 16” (40.64cm) x 10” (25.4cm)
Accessory Cables:	
440-5600-000	DE-15M to SD (Y-C / CVBS w/female BNCs - 1’ / 308.4mm)
440-5600-001	DE-15M to HD (YPbPr/RGBHV w/male BNCs - 3’ / .914m)
440-5600-002	DE-15M to HD (YPbPr/RGBHV w/male BNCs - 6’ / 1.83m)
440-5600-003	DE-15M to HD (YPbPr/RGBHV w/female BNCs - 7” / 177.8mm)

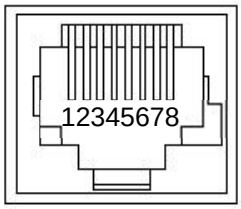
Appendix 1: Video and Control Pin-out Table for ProductionVIEW HD MV

Pin	RGBHV	YPbPr	Y/C & Composite Adapter Cable
1	Red	Pr	-
2	Green	Y	-
3	Blue	Pb	-
4	ID	-	-
5	N/C	-	-
6	Red GND	Pr GND	-
7	Green GND	Y GND	-
8	Blue GND	Pb GND	-
9	No Pin	-	-
10	GND	-	GND
11	-	-	Y - Luminance
12	-	-	C - Chrominance
13	H-Sync	-	-
14	V-Sync	-	-
15	CVBS	-	Composite



Camera Control Ports 1 through 6 - RS-232 on RJ-45 Connectors:

PIN# Signal
1) Unused
2) Unused
3) Unused
4) Unused
5) Unused
6) GND
7) TXD (to RXD of camera)
8) RXD (from TXD of camera)



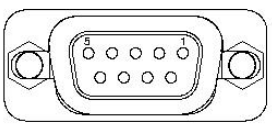
Appendix 2: RS-232 Control

The ProductionVIEW HD MV has six (6) discrete camera control ports which eliminates the need for daisy-chaining control cabling. With ProductionVIEW HD MV, all cabling configurations are home run wiring configurations. Each Channel will auto-configure the input channel for control of the camera attached.

Vaddio uses simple control protocols to accomplish custom programming with the ProductionVIEW HD MV. The Communication Specification, API and Programming Language are listed below and definitions are listed on the next page. **Note: All commands must be followed by a carriage return.**

Communication Specification
Communication Speed: 9600 bps (default)
Start bit: 1
Stop bit: 1
Data bits: 8
Parity: None
No Flow control

Control Port - RS-232 on DB-9F Connector
PIN# Signal
2) TXD
3) RXD
5) GND
All other pins - Unused



API and Programming Language

```
+-------------------------------------------------------------------------+
|                     Vaddio ProductionVIEW HD MV                         |
+-------------------------------------------------------------------------+
| ?         - This Menu                                                   |
+------------------------ System Access ---------------------------------+
|Power      x- Power(On/Off)            |SysMode    x- (Manual/Auto)      |
|ProgIn     x- Program (1-6,7-LSG,8-PIP)|Preset     x- Go to Preset(1-12) |
|PrevIn     x- Preview (1-6,7-LSG,8-PIP)|Store      x- Store Preset(1-12) |
|Camera     x- Switch to Camera(1-6)    |Take        - Take Button        |
|DspCams     - List connected cameras   |Version     - Firmware Version   |
|SaveConfig  - Manual Config Save       |ResetVideo  - Re-Load Video config|
|Rescan      - Rescan cameras           |HomeButton x- Home Button(On,Off)|
|SerialEcho x- Echo Serial (On/Off)     |                                 |
|Config      - List Config Settings     |JSD70      x- On/Off/Timer(0-255)|
+--------------- Camera ----------------+---------------------------------+
|Move     x,x- (Up/Down/Stop/Left/Right),Value                            |
|Zoom     x,x- (In/Out/Stop),Value      |Home        - Home Camera        |
+--------------------- Touch Screen Configuration-------------------------+
|WBtn xxddvvvvhhhhVVVVHHHH - Set button touch screen limits               |
|     xx - Button Index (0x00-0x2f)                                       |
|     dd - Button ID 0x3c:take,0x16-0x1b:preview 1-6,0x24-0x2f:preset 1-12|
|                  0x39:wipe,0x3a:cut,0x3b:fade                           |
|     vvvv - Vertical coordinate lower limit                              |
|     hhhh - Horizontal coordinate lower limit                            |
|     VVVV - Vertical coordinate upper limit                              |
|     HHHH - Horizontal coordinate upper limit                            |
|RBtn xx - Read button touch screen limits record                         |
|     xx - Button Index (0x00-0x2f)                                       |
+-------------------------------------------------------------------------+
```

Appendix 3: Command Structure Definitions

Command	Parameters	Description
Camera	Camera [9](cr)	Select indicated camera (1-6)
Config	Config(cr)	Display system configuration
DspCams	DspCams(cr)	Display cameras connected(and Port)
Home	Home(cr)	Home Camera
HomeButton	HomeButton On/Off(cr)	Enable/Disable Home Button on Joystick
JSD70	JSD70 On/Off/[cr]	Special Joystick processing for Sony D70 Camera
Move	Move(Up/Down/Left/Right/Stop)[,9](cr)	Move camera
Power	Power On/Off(cr)	Power system On/Off
Preset	Preset [9](cr)	Select indicated preset (1-12)
PrevIn	PrevIn [9](cr)	Select Preview input(1-6)
ProgIn	ProgIn [9](cr)	Select Program input(1-6)
Rescan	Rescan(cr)	Initiate Camera scan
ResetVideo	ResetVideo(cr)	Re-Load Video Configuration
SaveConfig	SaveConfig(cr)	Saves configuration of all console settings
SerialEcho	SerialEcho On/Off(cr)	Serial Echo On/Off
Store	Store [9](cr)	Store indicated preset on the current input source(1-138)
SysMode	SysMode Auto/Manual(cr)	System Access automatic/Manual
Take	Take(cr)	Initiate Transition
Version	Version(cr)	Display System Version information
Zoom	Zoom (in/Out/Stop)[,9](cr)	Zoom Camera, optional speed (1-7)

The Touch Screen Configuration read/write commands are used only for diagnostics by Vaddio Engineers to verify Touch Screen table parameters.

Compliance and CE Declaration of Conformity

Compliance testing was performed to the following regulations:

• **FCC Part 15, Subpart B**	Class A
• **ICES-003, Issue 4: 2004**	Class A
• **CISPR 22: 2009**	Class A
• **European Standard EN 55103-1: 2009**	Class A
• **European Standard EN 55103-2: 2009**	Class A
• **EN 55022: 2006 + A1: 2007** (CISPR 22:2005/A1: 2005)	Class A
• **EMC Directive 2004/108/EC**	Class A

MADE IN THE USA

FCC Part 15 Compliance

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15, Subpart B, of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his/her own expense.

Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) This device must accept any interference including interference that may cause undesired operation of the device.
Changes or modifications not expressly approved by Vaddio can affect emission compliance and could void the user's authority to operate this equipment.

Industry Canada Industrie Canada

ICES-003 Compliance

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.
Le présent appareil numérique n'emet pas de bruits radioélectriques dépassant les limites applicables aux appareils numeriques de la classe A préscrites dans le Règlement sur le brouillage radioélectrique édicte par le ministère des Communications du Canada.

European Compliance

This product has been evaluated for Electromagnetic Compatibility under the EMC Directive for Emissions and Immunity and meets the requirements for a Class A digital device. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Standard(s) To Which Conformity Is Declared:

EMC Directive 2004/108/EC	
EN 55022: 2006 + A1: 2007 (CISPR 22: 2005/A1:2005)	Conducted and Radiated Emissions
EN 55103-1: 2009	Electromagnetic Compatibility
EN 55103-2: 2009; E2-Commercial and Light Industrial	Immunity
• EN 61000-4-2: 1995 + Amendments A1: 1998 + A2: 2001	Electrostatic Discharge
• EN 61000-4-3: 2006 + A1: 2008	Radiated Immunity
• EN 61000-4-4: 2004 + Corrigendum 2006	Electrical Fast Transients
• EN 61000-4-5: 2006	Surge Immunity
• EN 61000-4-6: 2009	Conducted Immunity
• EN 61000-4-11: Second Edition: 2004	Voltage Dips, Interrupts and Fluctuations
• Annex A of EN 55103-2: 2009	

Note: For strict compliance to FCC, ICES-003 and CE radiated emissions standards, please use the provided Laird 100ohm, ¼" snap on rectangular ferrite on the DC cable of the power supply.

Warranty Information:

Hardware* Warranty: One year limited warranty on all parts. Vaddio warrants this product against defects in materials and workmanship for a period of one year from the day of purchase from Vaddio. If Vaddio receives notice of such defects during the warranty period, they will, at their option, repair or replace products that prove to be defective. Please see Vaddio's Service Terms and Conditions at vaddio.com for specific details and policies.

Exclusions: The above warranty shall not apply to defects resulting from: improper or inadequate maintenance by the customer, customer applied software or interfacing, unauthorized modifications or misuse, operation outside the normal environmental specifications for the product, use of the incorrect power supply, improper extension of the power supply cable or improper site operation and maintenance.

Vaddio Customer Service: Vaddio will test, repair, or replace the product or products without charge if the unit is under warranty and is found to be defective. If the product is out of warranty, Vaddio will test then repair the product or products. The cost of parts and labor charge will be estimated by a technician and confirmed by the customer prior to repair. All components must be returned for testing as a complete unit. Vaddio will not accept responsibility for shipment after it has left the premises.

Vaddio Technical Support: Vaddio technicians will determine and discuss with the customer the criteria for repair costs and/or replacement. Vaddio Technical Support can be contacted through one of the following resources: e-mail support at support@vaddio.com or online at www.vaddio.com.

Return Material Authorization (RMA) Number: Before returning a product for repair or replacement, request an RMA from Vaddio's technical support. Provide a technician with a return phone number, e-mail address, shipping address, and product serial numbers and describe the reason for repairs or returns as well as the date of purchase and proof of purchase. Include your assigned RMA number in all correspondence with Vaddio. Write your assigned RMA number on the outside of the box when returning the product. All product returned for credit is subject to a restocking charge without exception.

Voided Warranty: The warranty does not apply if the original serial number has been removed or if the product has been disassembled or damaged through misuse, accident, modifications, or unauthorized repair. Cutting the power supply cable on the secondary side (low voltage side) to extend the power to the device (camera or controller) voids the warranty for that device.

Shipping and Handling: Vaddio will not pay for inbound shipping transportation or insurance charges or accept any responsibility for laws and ordinances from inbound transit. Vaddio will pay for outbound shipping, transportation, and insurance charges for all items under warranty but will not assume responsibility for loss and/or damage by the outbound freight carrier.
• If the return shipment appears damaged, retain the original boxes and packing material for inspection by the carrier. Contact your carrier immediately.

Products Not Under Warranty: Payment arrangements are required before outbound shipment for all out of warranty products.

Other General Information:
Care and Cleaning
Do not attempt to take this product apart at any time. There are no user-serviceable components inside.

- Do not spill liquids into or onto the product
- Keep this device away from food and liquid
- For smears or smudges on the product, wipe with a clean, soft cloth
- Do not use any abrasive chemicals.

Operating and Storage Conditions:
Do not store or operate the device under the following conditions:

- Temperatures above 40°C (104°F) or temperatures below 0°C (32°F)
- High humidity, condensing or wet environments
- In inclement weather
- Dusty environments
- In swimming pools or in underground rivers
- Dry environments with an excess of static discharge
- In outer space (issues with atmospheric re-entry and longevity)
- Under severe vibration

Notes:

Notes:

Back Inside Cover - Blank

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